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#121

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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S-E-C-R-E-T

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COUNTRY East Germany

SUBJECT Funkwerk Koepenick: Development of Sounding Devices

REPORT

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1. Horizontal-Vertical Sounding Device (HV Sounder)

The first HV sounder is planned to be completed in early 1961, which is to be achieved by overtime work and special assignments in the workshops.

Only one of the pulse generators will presumably be ready by 31 December 1960. The pulse generator has the following technical data:

Performance: 4 kW

Frequency: 20 kc/s

Pulse duration: 15 ms

Tube equipment: 1 ECF 82, 1 SRS 554, 1 SRS 454 and 2 ECC 82s

2. Magnifying Echo Meter (Lupenechograph)

a. With the exception of the frequency, the magnifying echo meter has the same pulse generator as the HV sounder, the frequency of the pulse generator for the magnifying echo meter being 30 kc/s. Because of the overburdening of the workshops, the pulse generator for the magnifying echo meter will not be completed by 31 December 1960.

b. The planned driving motor EM 70/40 of the firm Hartha (Saxony) is no longer available. Negotiations for the delivery of another appropriate motor are under way. But no results have so far been achieved. The individual parts for the worm gear were delivered by the firm Schulz, Wilhelmsruh, on 23 January 1960.

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c. The K5 model was scheduled to be completed by the workshop by 30 November 1960. Tests were started with the pulse amplifier and the pulse release. The plan target, envisaging the completion of 50 percent of development stage K5 by 31 December 1960, can presumably be met.

3. Profile Echo Meter (Profilechograph) FP 10

a. The recording procedure has been changed. It is now the recording drum which rotates and the recording needle is moved parallel to the longitudinal axis of the recording drum. With every revolution of the cylinder, a transmitting pulse is released at a definite point; the zero line of the profile. The number of revolutions of the recording drum and the rate of travel can be adjusted according to the depth range desired and/or the speed of the vessel. The new transistorized amplifier is working perfectly.

b. In mid-October, tests with the profile echo meter were started on a vessel belonging to Funkwerk Köpenick. A mobile VHF transmitter was made available therefor by the NVA. The tests were, however, greatly impeded by continuous break-downs of the transmitter. In early December 1960, the faulty transmitter was replaced by the NVA by another one in order not to endanger the final completion of the echo meter. This second mobile VHF transmitter looks like a field telephone. Particulars of the transmitter and the test results are not known.

4. Continued Development of the Recording Device

The present model of the toothed-wheel gearing with magnetic clutches (mit Magnetkupplung) cannot yet be put into operation. Difficulties are encountered with the yet unsatisfactory bearers.

5. Echo Meter with Fish Magnifier (Fischlupe)

The 50 devices in operation in the Rostock and Sassnitz fish combines are to be equipped with engines having mechanical flyballs (Fliehkraftregler). It was furthermore tested whether these devices could be connected to the gyrocompass installation, which, in principle, is possible when an interstage transformer (110 to 220 V) is used. The reason for this measure is the demand for a stable supply of the echo meter with regard to tension and frequency. By 31 December 1960, 100 installations with mechanical flyballs were allegedly to be delivered.

6. Vibrator Laboratory

The vibrators of two devices [redacted] are being examined 50X1-HUM
in the vibrator laboratory. The devices include a MINISCOP [redacted] and 50X1-HUM
a survey echo meter [redacted] With these examinations, the ef- 50X1-HUM
ficiency of the vibrators for 20 and 30 kc/s is to be improved. The efficiency of the vibrator of Funkwerk Köpenick is at present 35 to 40 percent.

7. Faults with Devices already Delivered

a. Examinations of already delivered installations, which were made because of numerous complaints, proved that only a small portion of the deficiencies were due to faulty operation. Manufacturing faults were the principal reason.

b. Various components of the echo meter installations were made of soft material instead of hardened steel. Inappropriate rubber had been used for friction wheels, bearings were deflected (ausgeschlagen) and part of the design measures were not observed. Similar faults were also determined with goniometers, gyrocompasses and collision protection installations. Furthermore, it was determined that the driving motor and the antenna gearing for the

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collision protection installations showed faulty operation and the assembly of the high-voltage unit for the transmitter was imperfect, causing sparking and short-circuits. Faulty operation of the goniometers was mostly due to bad relay contacts. In future, only rhodium contacts are to be used for these contacts. The collision protection installations of the fish cutters are allegedly to be replaced by installations of Soviet make.

c. A commission of the district Party management was employed in the plant for clarifying the above conditions. Also the State Security Service is said to have taken action, since sabotage is presumed.

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